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RECREATION USE LIMITS AND ALLOCATION

ON THE LOWER DESCHUTES RIVER

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I. Introduction

This report was commissioned by the Confederated Tribes of the Warm Springs Reservation in order to provide additional information to the Deschutes River Policy Group, Executive Review Board, and members of the public concerned with recreation planning on the Lower Deschutes River. The independent analysis was conducted by Sarah Bates, Assistant Director of the Natural Resources Law Center, University of Colorado School of Law.

A draft report released in early November 1991 set forth research conducted in September and October 1991. It was intended to provide a helpful starting point for discussion of public policy issues related to recreation use limits and allocation at the November 1991 meetings of the Policy Group. This final report reflects comments of the Policy Group and members of the public attending the November meetings. It also reflects materials prepared by Jacque Greenleaf, summarizing areas in which the Policy Group reached consensus and setting forth amended proposed alternatives.

II. Background

A. The Lower Deschutes River

The Deschutes River flows through north-central Oregon, beginning just east of the Cascade crest in the Deschutes National Forest and running northward along the east flank of the Cascade Mountain Range to the Columbia River. The portion of the river addressed in this study is designated as the "Lower Deschutes River," which includes the northern 100 miles of the river from the Pelton Reregulating Dam to the river's confluence with the Columbia River. In these

100 miles the Deschutes River runs through three counties, an Indian reservation and other tribal landholdings, state- and privately-owned lands, and federal public lands managed by the Bureau of Land Management. For management purposes this stretch of river is divided into four segments, each ranging from 15 to 41 miles long.

The Deschutes River basin is carved into an ancient basalt deposit, a geomorphic unit known as the Deschutes-Umatilla Plateau. The basin is characterized by deep, narrow canyons alternating with wide-open high desert landscapes. Since most rainclouds moving eastward from the Pacific Ocean are blocked by the Cascade Mountains, the basin's climate is semi-arid, averaging only nine to fourteen inches of rainfall per year. Although this rain generally falls only in the winter months, the river enjoys uniform water flows throughout the year. (The river is fed by year-round springs; also, the operators of Pelton Reregulating Dam are required as a condition of their federal license to maintain minimum streamflows.) These three factors -- spectacular scenery, dry summer weather, and consistent streamflows -- have drawn an increasing number of recreational boaters to the Lower Deschutes River. Many other visitors are drawn by the outstanding fishery in this stretch of the river. For all types of visitors the Lower Deschutes' proximity to Portland is a valuable added convenience.

B. Historical and Recreational Uses of the River

Archaeological evidence indicates that humans have occupied the lands now within Oregon for thousands of years. These people depended on rivers such as the Deschutes for water, fish and other wildlife, and spiritual sustenance. Some of the important cultural sites from early basin residents remain in use today by members of the Confederated Tribes of the Warm

Springs Reservation, such as the fishing station at Sherar's Falls, approximately six miles north of the town of Maupin. More recent arrivals included explorers, trappers and traders in the early nineteenth century, settlers and ranchers in the mid-1800s, and railroad builders in the early part of this century. Today the Lower Deschutes is home to approximately 35,000 people, including 3,000 residents of the Warm Springs Reservation.

Recreational use has expanded tremendously on the Deschutes River (as it has on most western rivers) through the last several decades. Some have attributed the dramatic rise in river recreation to advances in equipment and an overall rise in popularity of outdoor recreation (the numbers of backpackers and downhill skiers also exploded during the 1960s and 1970s) (Mak, Jensen and Hartman 1977). In addition to boaters, whose numbers have grown rapidly, many people travel from Portland and farther away to fish, camp, hike, sightsee, bicycle, swim, and picnic along the river's edge. For our purposes, the total number of boaters is the most relevant trend, although the aggregate impact of all recreation users must be considered in river management decisions.

Between 1975 and 1990 boating use on the Lower Deschutes increased from 41,600 to 138,000 boater days[1] annually (Shelby 1987 and Draft Plan). Importantly, this increasingly heavy use is not spread evenly throughout the river. Appendix Q to the Draft Plan contains charts showing boater use levels for each segment of the Lower Deschutes River in 1988. Segments One and Two, for example, each had an average of 450 boaters per day during the peak season,

[1]A *boater day* is defined in the Draft Plan as "use by a boater of any river segment for all or part of a day."

mid-May to mid-September; Segment Three had an average of only 50 boaters per day during this period; and Segment Four's use averaged 150 boaters per day.

These figures are only averages, of course; the pattern of recreation use (most boaters visit on weekends) means that the most popular areas are even more crowded than these numbers indicate. For example, the maximum number of boaters per day is close to 1400 on Segment One on peak weekend days; almost 2000 on Segment Two; just under 225 on Segment Three; and approximately 500 on Segment Four.

Research performed for the Warm Springs Tribes found that the Lower Deschutes is far more congested than any limited-entry river in the West. Peak boater densities on other rivers were found to range from 2-18 people per river mile per day. On the Lower Deschutes, maximum densities are 11 (Segment Three), 22 (segment Four), 70 (Segment One) and 134 (Segment Two) people per river mile per day.

Increasingly, the boaters enjoying the Lower Deschutes are using the services of guides and outfitters. An *outfitter* is defined in the Draft Plan as "a person who for compensation or other gain, provides equipment, supplies or materials for the conduct of outdoor recreation activities." A *guide* is "a person who provides services by leading one or more other persons in outdoor recreation activities for a fee." Thus, outfitters rent equipment, while guides accompany boaters on the river. The Lower Deschutes is a relatively easy river to raft (Class III or below), so many rafters simply rent equipment from outfitters. Guides, on the other hand, are popular with anglers wishing to reach fishing areas by motorboat (in the lower stretches of the river) or drift boat (in the upper parts).

Guides and outfitters who use BLM lands and facilities are required to obtain special use permits from the BLM; all guides and outfitters must register with the State of Oregon. In 1978 there were 40 guides and outfitters holding BLM permits for the Lower Deschutes; by 1989 this number had more than tripled to 138. (There do not appear to be separate data on the number of guides compared with the number of outfitters.) Guides and outfitters reported gross receipts of $18 million in 1989, or about $13,000 per individual guide. That year, 35,775 of the total 135,000 boater days on the Lower Deschutes were associated with guides and outfitters. Thus, the current split between private and "outfitted" river users is roughly 75% private-25% outfitted. (There do not appear to be any data on how this split differs between river segments.)

In 1982 the Oregon State Parks and Recreation Division conducted a survey of the boaters using the Lower Deschutes. The report, Deschutes River Scenic Waterway Boater Survey - 1982 (published in 1983), included demographic information about boaters, areas and types of use, and attitudes about the recreation experience. Boaters expressed considerable concern about the lack of sanitary facilities and campsites along the river and the high numbers of people using the river. Although the survey revealed general opposition to overall limitations on boater numbers, respondents indicated support for limiting the number of powerboats, the number of outfitters, and the size of all boating parties.

In 1985, under direction from the state legislature, the Oregon State Parks and Recreation Division commissioned a study by Oregon State University. The researchers conducted interviews, site visits, and recreation-use surveys to identify impacts, recommend standards for acceptable levels of impacts, and suggest management strategies to limit impacts. The resulting report, Social and Ecological Impacts of Recreation Use on the Deschutes River Scenic Waterway, was

submitted to the Oregon Legislature in February 1987. The survey found that much of the Lower Deschutes' riparian vegetation was below its maximum potential due to grazing, railroad and road construction, and heavy recreation use. It also found that boaters on all sections perceived the river as crowded and desired a lower-density type of experience.

It is indisputable that the numbers of recreational visitors to the Lower Deschutes have increased in recent years and that the they are likely to continue to grow in the future. Some have expressed concerns that the river will be "loved to death" (i.e., both the natural environment and the positive social experience will be destroyed) if recreation use is allowed to continue without any restrictions. Others are not convinced that any substantial environmental degradation has occurred or that river users are unhappy with the effects of crowding. Clearly there needs to be consensus on base data of resource condition and user satisfaction before any agreement will be possible on the more difficult issues of recreation use limits or allocation.

The current planning process will address some issues of recreation use, but it must be viewed in the larger context of federal and state legislation protecting the Lower Deschutes. These statutory measures are described in the following section.

C. Statutory Provisions for River Protection and Planning

The Lower Deschutes River was designated by voter initiative as a State Scenic Waterway in 1970. The statute governing such designated waterways recognizes their "outstanding scenic, fish, wildlife, geological, and outdoor recreation values of present and future benefit to the public" (O.R.S. 390.815), and declares that "the highest and best uses of the waters within scenic

waterways are recreation, fish and wildlife uses" (O.R.S. 390.835). River managers are directed to give "primary emphasis" to "protecting the esthetic, scenic, fish and wildlife, scientific and recreation features" of scenic waterways, based on each designated area's "special attributes" (O.R.S. 390.845). The Oregon Scenic Waterways Act is discussed in several law review articles (Note 1991; Reynolds 1989).

In the late 1970s, recognizing that recreation use on the Lower Deschutes was increasing dramatically and conflicts were developing among various users, the Governor of Oregon appointed a 17-member Task Force to investigate recreational use issues and recommend management strategies to deal with them. Among other things, the task force recommended limiting the total number of river guides and imposing a fee system to pay for recreation management. Although the first recommendation was not adopted, the second was; since 1982 every boater has been required to purchase a daily ($1.75) or annual ($12.00) boater pass from the Oregon State Parks and Recreation Department. Revenues from boater pass sales are reserved in a dedicated fund to be spent on the Deschutes River Recreation Area. Apparently the task force did recommend freezing use levels at 1980 levels, although it did not recommend imposing a limited entry system.

In 1987 the Oregon legislature enacted legislation to guide administration of the Lower Deschutes, and designated this stretch of the river as the Deschutes River Scenic Waterway Recreation Area (O.R.S. 390.930-390.940). Most importantly, the statute called for the creation of a nine-member, Governor-appointed Deschutes River Scenic Waterway Recreation Area Management Committee to develop a plan for managing recreation use of the Lower Deschutes

(O.R.S. 390.934).[2] The committee was provided with various guidelines for developing this plan, including the following of particular relevance to the present analysis:

- The plan should stress a segment-by-segment design (O.R.S. 390.934);

- It should permit the continuation of existing uses if they are compatible with the Scenic Waterways Act and will not "impair substantially the natural beauty of the scenic waterway or diminish its esthetic, fish and wildlife, scientific and recreational values" (O.R.S. 390.938(1)); and

- The Committee should only impose restrictions on access through a permit system after considering "all other management options" (O.R.S. 390.938(3)).

The statute provides that its authorizations for the committee's planning functions will expire on June 30, 1993 (Secs. 18-22, chapter 624, Oregon Laws 1987).

In October 1988 Congress designated the Lower Deschutes River as a National Wild and Scenic River, and classified it as a recreational river segment (Omnibus Oregon Wild and Scenic Rivers Act of 1988, P.L. 100-557, 102 Stat. 2782, codified at 16 U.S.C. § 1274). A brief review of the federal statute governing such designation is necessary to understand the implications of this classification.

The National Wild and Scenic Rivers Act provides that any river segment to be designated for federal protection must possess "outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values" (16 U.S.C. § 1271). Depending on the level of development already existing along the river segment, it may be classified as "wild," "scenic" or "recreational" (16 U.S.C. § 1273(b)). The "recreational" classification assigned to the Lower Deschutes includes "rivers or sections of rivers that are readily accessible by road or railroad, that

[2]For a description of the committee's members and operating directions, see Sections 6-11, 13, 14, and 23 of chapter 624, Oregon Laws 1987.

may have undergone some impoundment or diversion in the past" (16 U.S.C. § 1273(b)(3)). Commentators agree that the purpose of the Act was to preserve the status quo of designated rivers -- to prevent development that would degrade the values for which the rivers were included in the system.[3]

Bringing the Lower Deschutes within the protection of the federal Wild and Scenic Rivers Act would shape the planning process that was underway pursuant to state law. The National Wild and Scenic Rivers Act requires preparation of a comprehensive management plan within three years of designation (16 U.S.C. § 1274(d)). In the Omnibus Oregon Wild and Scenic Rivers Act of 1988 (the legislation designating the Lower Deschutes as part of the national system) Congress explicitly recognized the cooperative planning efforts already initiated on the Lower Deschutes by providing that the river is "to be administered by the Secretary of the Interior through a cooperative management agreement between the Confederated Tribes of the Warm Springs Reservation, and the State of Oregon . . ." (16 U.S.C. § 1274(a)(73)(E)).

The Wild and Scenic Rivers Act (16 U.S.C. § 1281(a)) contains the following guidelines for managing agencies preparing these plans:

> Each component of the national wild and scenic rivers system shall be administered in such a manner as to protect and enhance the values which caused it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public

[3]See, e.g., Gray (1988) ("the Wild and Scenic Rivers Act is a strong congressional directive that river areas designated pursuant to its authority be preserved in their natural, or at least existing, condition"); Tarlock and Tippy (1970) ("according to the category of river, recreational development will be allowed, but will be limited to that which will not substantially alter the character of the river corridor and its ecosystems at the time of its inclusion within the system"); and Note (1991) ("Congress enacted measures to ensure the preservation of rivers in substantially the same condition as when designated"). See also H.R. Report 1263, 90th Cong. 2d Sess. 10, reprinted in USCCAN 3801, 3811.

> use and enjoyment of these values. In such administration primary emphasis shall be given to protecting its esthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area. (emphasis added)

Note that this section does not list recreation as one of the features that should be given "primary emphasis." The implication is that the river's natural and historical features are to be preserved first, while recreational opportunities may be enhanced to the extent that they do not compromise these primary values.

The National Wild and Scenic Rivers Act provides protection not only for free-flowing waters, but also for the lands surrounding designated waterways. For designated river segments that run through federal public lands, the statute authorizes federal agencies to take all necessary actions regarding "management policies, regulations, contracts, plans, affecting such lands, following November 10, 1978, as may be necessary to protect such rivers" (16 U.S.C. § 1283(a)). In essence, federal agencies are directed to draw a narrow corridor along the river (on average a quarter-mile on either side) in which existing uses could continue, but new uses that would impair the character of the river would be prohibited (16 U.S.C. § 1283(b)).

D. Cooperative Management Planning on the Lower Deschutes

Clearly, the Lower Deschutes River has been the subject of a great deal of legislative action by both state and federal lawmakers. Yet the end result of all this activity is not yet clear. On the one hand, the river itself is clearly protected from further construction of dams or other largescale development. On the other hand, as illustrated by the excerpts set out in the previous section, state and federal statutes do not contain identical guidelines for river management. In

order to reconcile different sets of requirements into a single comprehensive management plan, in 1989 the Deschutes River Management Committee and the eleven managing agencies agreed to a "Memorandum of Understanding for Cooperative Management Planning on the Lower Deschutes River" (called the "MOU" for short).

The planning process prescribed by this MOU was designed to fulfill the requirements of both federal and state laws. It explicitly did not set out to address issues related to implementation of a comprehensive plan, but rather focused exclusively on the plan preparation process. The MOU set up the following groups to compile information and prepare a management plan for the Lower Deschutes:

> - A "policy group" comprised of members of the Deschutes River Management Committee and representatives of the managing agencies, responsible for making policy decisions in the plan preparation process;
>
> - A seven-member "technical planning team" drawn from state, federal, and tribal interests, charged with developing planning options for consideration by the policy group; and
>
> - An "executive review board" made up of four members to decide issues that the policy group is unable to resolve by consensus.

The planning process prescribed in the MOU began in 1988, and a draft management plan was released in May 1991. Just as the federal and state statutes provide direction for managing the Lower Deschutes, the Draft Plan contains its own management goal:

> The goal of this plan is to manage the lower 100 miles of the Deschutes River canyon on a segment-by-segment basis to protect and enhance the river's outstandingly remarkable and related values while allowing the continuation of compatible existing uses, including a wide range of public outdoor recreation opportunities and minimizing user conflicts. These recreation opportunities would be provided to the extent that they do not substantially impair the natural beauty of the river canyon, diminish its esthetic, fish and wildlife, scientific and recreational values and take into account the rights and interests of private landowners.

The present study is intended to inform members of the Deschutes River Policy Group, Executive Review Board, and members of the public involved in the decision-making process. Although there are a variety of public policy issues to be resolved before a final plan may be approved, the present study was commissioned only to address the question of how best to allocate recreation uses should a permit system to limit recreational use become necessary.

III. Options and Considerations for Allocating Recreational River Use on the Lower Deschutes

What does it mean to "allocate" recreation use on the Lower Deschutes? It is useful to examine the process by which a decision to allocate a recreation resource is made. First, managers of the resource (typically public agency staff or an interagency management committee) observe that the ecological quality of a protected natural area is declining while recreation use is increasing. At the same time, the managers may become aware of user dissatisfaction -- whether from too many contacts with others or a perception that the area is no longer as beautiful or pristine as it once was. At this point, there is usually a decision that the area's "carrying capacity" or predetermined "limits of acceptable change" have been or soon will be exceeded.

When damage to a resource becomes obvious, the resource managers need to collect detailed information on the location and causes of the damage in order to understand whether the problem is due to the sheer number of visitors or some pattern of destructive behavior by particular visitors. If the latter proves to be true (for example, if certain recreationists don't understand how to dispose of their waste properly), then the managers may seek to educate the "problem" visitors. If, on the other hand, the volume of visitors is the source of the resource damage, the managers will seek to reduce total visitor numbers.

A decision to reduce the total number of visitors does not necessarily mean that mandatory rationing must be pursued. To the contrary, the majority of recreation policy experts agree that resource managers should always focus first on the least restrictive approaches to reducing visitation (e.g. Stankey and McCool 1991). There are several reasons for this opinion, but perhaps the most compelling is simply that a major purpose for protecting natural areas for their wilderness-like qualities is to allow individuals to escape from their regimented, structured everyday lives and enjoy the freedom of the outdoors (Schreyer 1977). The best way to promote this sense of freedom is to allow individual users to make their own choices as to how to enjoy a wild area. If there are problems with use in a particular area, the initial effort should aim at providing enough information to allow individual users to choose to use the area in a different way (either changing to a different location or a different time), not to force them to make a particular choice.

There are a number of methods for encouraging users to make different choices about how they will use an area. For example, a voluntary sign-in board may be posted at a put-in site on a popular river. Boaters indicate on the board where they plan to camp that night (possibly by placing a pin at a campsite on a posted map); others putting in later will know how many others are already on the river and how crowded particular camping areas may be. They may decide to take a remaining campsite and put up with the crowds, or they may decide to use another part of the river that tends to be less popular (there can be information posted about alternative trips). By providing adequate information, this system allows the users to make a choice about the quality of their experience and protection of the environment.

A variation on this approach is in effect on the Smith River in Montana. Boaters are encouraged to phone ahead of time to announce their intended launch date and time and the number in their party. The person administering the voluntary reservation system, in turn, gives callers information about other boaters who have called. Thus, boaters can change their plans in order to avoid peak use periods. Managers report that this system has resulted in significant redistribution of use from weekends to weekdays (Baxter 1991).

The wide range of indirect controls includes other options as well: access to an area might be restricted by closing roads or launchsites; information about use levels and alternatives might be posted on signs or made available in brochures through local businesses and public offices; and literature about the river and how to reduce adverse impacts may be mailed to potential boaters who contact public agencies. Managers of terrestrial wilderness areas have embraced the concept of indirect controls, and have experimented with many variations on these ideas. For example, mandatory self-registration (without any restriction on access) is in effect in a number of wilderness areas (Hendee and Lucas 1973).

River managers, by contrast, seem to have made the leap to direct controls far more readily -- perhaps reflecting the more concentrated use patterns on rivers, a perception that threats to the environment are more urgent, or the perceived weaknesses of voluntary programs (McCool 1978). One writer observed that use limits are simply more practical on rivers -- where access is usually limited -- than on land (Schreyer 1977). In many cases use limits on rivers were based on insufficient data; maximum allowable boater numbers were "pulled out of the air."

Although voluntary methods of influencing visitor behavior are most attractive at the outset, they are not always effective. In any event, if recreation use continues to grow, limitations are inevitable. If the full range of indirect controls has been implemented, evaluated, and found lacking (i.e., the condition of the natural environment or the quality of the recreation experience is not improving), resource managers must move toward restricting access to the area. Limitations on user numbers are not the only method for limiting or redistributing recreation use. As McAvoy (1985) pointed out, the least-intrusive direct approach to ease conflicts between different recreation users is to "zone" the area for different activities. Zoning may be spatial (different areas ar designated for particular uses, such as fishing or rafting) or it may be temporal (fishing is allowed in the early morning and evening; rafting is allowed in the middle of the day). In any event, the decision to impose use limits should be seen as a significant decision, and should only be implemented when less-restrictive alternatives have been attempted and found insufficient.

Although use limits certainly may be necessary, a recent article (Stankey and McCool 1991) set out some thought-provoking observations about their utility:

(1) Recreation use level is often not the principal relevant variable that determines environmental impact;

(2) Use limits are difficult to administer;

(3) The assumption of steadily increasing use may not be valid;

(4) Use limits represent value judgments about the acceptability of impacts;

(5) We talk about use limits as though such a measure implies only one thing; in practice, there are several views about what a limit is, and different kinds of limits can have significantly different effects on implementation; and

(6) Visitors support use limits when a clear need is demonstrated.

The last point (visitor acceptance) has been confirmed in a number of studies (e.g. Fazio and Gilbert 1974), and it underscores the importance of involving river users in setting use limits and

explaining the rationale behind a selected approach. One report (Anderson and Manfredo 1985) concluded:

> In general we found that visitors were likely to support management actions, direct or indirect, that retain the quality and character of the resource and recreation experience.... We believe these findings point to the importance of communicating the need for management actions to visitors.

This section begins by describing the legal and policy bases for imposing limits on recreation use; these apply no matter which allocation method is chosen. It then describes various approaches to allocating uses and analyzes the public policy implications of choosing among these alternatives. Next it reviews the proposed allocation of recreation uses on the Lower Deschutes. It concludes with a brief description of other factors that might affect a final decision concerning recreation use allocation on the Lower Deschutes.

A. Justifications for Limiting Recreational Uses

Resource managers must constantly justify their decisions on biological, legal, and political grounds. Recognizing this fact, the Deschutes River Policy Group, in its criteria for selecting an allocation method, concluded that one important factor is the need to be able to defend the selected method to various user groups. (As one river manager mentioned in an interview, this can be a nearly impossible objective: "If you were to line up all river users end to end, they'd all be pointing in different directions.") Although the political dimensions of a decision can be the most formidable, this discussion focuses on the legal justification for limiting recreation uses on a Wild and Scenic River segment.

1. Protection of the River Resource

As indicated earlier, the Wild and Scenic Rivers Act requires that, at a minimum, a designated river segment must be protected in its condition at the time of designation. Thus, even though the Lower Deschutes is designated a recreational river segment (based on a relatively high level of access), the cumulative impacts of recreation uses must not cause the decline of the "outstandingly remarkable scenic, recreational, geologic, fish and wildlife, historic, cultural, or other similar values" for which designation was justified in the Omnibus Oregon Wild and Scenic Rivers Act. The "recreational" classification should guide agencies' decisions about permissible development in the river corridor (in other words, a relatively greater amount of human development may be allowed, compared with a wild or scenic segment), but in general the legislative history of the Wild and Scenic Rivers Act indicates that "development should in all cases be kept on the modest side" (H.R. Report 1263, 90th Cong. 2d Sess. 10, reprinted in USCCAN 3801, 3811).

The Oregon Scenic Waterways Act also requires protection of the river's environment. For example, it requires that managers give "primary emphasis [to] protecting the esthetic, scenic, fish and wildlife, scientific and recreation features" of designated scenic waterways (ORS 390.845). And, although the statute provides that existing uses may continue in the scenic waterway, it conditions that provision by requiring that they not "impair substantially the natural beauty of the scenic waterway or diminish its esthetic, fish and wildlife, scientific and recreational values" (ORS 390.938(2)).

In short, the statutory provisions guiding management of the Lower Deschutes provide solid justification for limiting recreation and other river uses (not just boating) in order to protect the enumerated values of the river in the state and federal statutes. The key to interpreting the scope of this authority is to understand the condition of the river and the recreational experience at the time of designation. Without an adequate understanding of those conditions, it would be difficult to determine what protections are necessary to prevent degradation.

The measure of limited-entry in order to protect a river's natural environment is often expressed in terms of "carrying capacity." The term is derived from the biological concept that particular habitats can only accommodate a certain number of individuals in a population; beyond that level, the resource base on which they depend will decline. (To a large degree this term has become outdated as managers have adopted the "limits of acceptable change" or LAC model of recreation planning. Nonetheless, the underlying concept remains useful.) There are several types of carrying capacity discussed in the recreation context: *physical* (the maximum number people that can be accommodated by existing facilities, campsites, launchsites, etc.); *social* (the maximum number of people who can be in the same area at the same time without having a negative experience due to crowding or conflicts with each other); and *ecological* (the maximum number of people that can use an area without degrading the vegetation, disturbing wildlife, or polluting the water). As explained in a recent essay (Bryan and Taylor 1990), recreation management should always consider ecological (or "biological") needs as the minimum criteria for protection:

> The framework needs to be based on sets of principles that should reflect that every resource has both biological and social carrying capacities and that biological carrying capacity sets the outside limits of use, while the social carrying capacity may legitimately pose even more restrictions (but never less than the biological).

This is consistent with the legal standards for resource protection set forth in the Wild and Scenic Rivers Act, described previously.

Moreover, the level of permitted uses should be based on the limiting factors of the particular river. These are different for every river, so a carrying capacity approach for one is unlikely to work for another without substantial modifications. For example, use limits on the Kennebec River in Maine were based on known patterns of water releases from a hydroelectric dam, which limited launch times; on the Penobscot River, by contrast, use limits were based on a finding that the time required to maneuver through a particular rapid limited the number of rafts that could navigate the river each day (Abbott 1986). Planners on the Smith River in Montana designated the river's capacity based on the amount of physical space at the public boat camps in the 61-mile river stretch; there is little day-use on this river, so campsites were the limiting factor there (Baxter 1991).

The contrasting viewpoints on how to determine and evaluate carrying capacity are beyond the scope of this analysis (see Shelby and Heberlein 1986; Stankey and McCool 1984; and Wagar 1974). One piece of advice was repeated by river managers experienced with setting limits for restricted-entry rivers: Aim low in estimating carrying capacity. In other words, it is easier to set relatively low use limits initially and then allow levels to increase gradually if it appears that the river can withstand more use, rather than to set higher limits and find later that the use levels must be reduced. This conservative approach is consistent with the requirement that the river's natural features must be protected from degradation. Also, a thorough understanding of an area's carrying capacity is recommended regardless of whether use limits are required immediately (Shelby 1991).

2. Legal Support for Use Limitations

The general requirement of maintaining a designated river's natural qualities is supplemented by the federal land management agencies' duty to protect all resources under their authority for long-term productivity. For example, the Federal Land Policy and Management Act requires the BLM to manage the lands under its authority for multiple uses and sustained-yield (43 U.S.C. § 1732). The BLM is afforded a great deal of discretion in choosing how to exercise this duty. Courts have interpreted the Wild and Scenic Rivers Act as "cumulative" to the powers already possessed under organic legislation such as the Federal Land Policy and Management Act (e.g., United States v. Hells Canyon Guide Service, Inc., 660 F.2d 735 (9th Cir. 1981)).

As a general matter, federal agencies possess broad authority to formulate policies and make rules to fill gaps left by Congress in a statutory program such as the Wild and Scenic Rivers Act. Although (pursuant to the Administrative Procedures Act, 5 U.S.C. § 706) courts have the authority to review an agency's interpretation of a statutory mandate, they will give "considerable weight" to the agency's construction, and will uphold the agency's decision unless it appears to contradict congressional intent (see Chevron USA v. Natural Resources Defense Council, 467 U.S. 837 (1984)). Another statement of the rule (Wilderness Public Rights Fund v. Kleppe, 608 F.2d 1250 (9th Cir. 1979)) says:

> There is a judicial presumption favoring the validity of administrative action. . . . Where several administrative solutions exist for a problem, courts will uphold any one with a rational basis, but the Secretary's balancing of competing interests must not be an arbitrary one.

This general principle of administrative law has been applied in the context of recreation use on rivers. For example, the court in Hells Canyon upheld a permit system for boaters on the

Snake River imposed by the Forest Service. The court found that an "emphasis on protection permeates" the Wild and Scenic Rivers Act, and that the agency's interpretation of the Act's authority "is to be given controlling weight unless it is plainly erroneous" (660 F.2d at 738).

Similarly, an agency has a great deal of discretion in selecting a method to allocate recreational uses once the decision is made that use limits are necessary (Utter 1977). The seminal decision in this regard is Wilderness Public Rights Fund v. Kleppe, in which the National Park Service's split allotment formula (92% commercial; 8% private boaters) in the Grand Canyon was challenged as arbitrary and unreasonable. The court rejected these charges, holding that a split allotment "is well within the area of administrative discretion" of the agency, at least during the period in which the Park Service was studying its alternatives (608 F.2d at 1253). The Ninth Circuit Court of Appeals confirmed this rule in a more recent case, United States v. Garren (893 F.2d 208 (9th Cir. 1990)), which rejected claims that the Rogue River's split allotment formula (50% commercial; 50% private boaters) violated equal protection or was arbitrary.

Sometimes imposition of use limitations will alter the status of a commercial operator. This regulation will be upheld unless the commercial operator can show that the agency acted arbitrarily or that its interpretation of the authorizing statutes was "plainly erroneous or inconsistent with regulation" (Hells Canyon, 660 F.2d at 738). (Such a showing would defeat the general presumption that an administrative action is valid, described above.) Whether commercial outfitters already holding special-use permits to operate on a river may be denied access when a new use-limit goes into effect does not appear to have been addressed in any reported court decisions. However, there is a general rule that licenses to use federal property are subject to revocation in light of new, more protective government policies (see examples cited in Tarlock

and Tippy 1970). For a summary of the federal government's authority to regulate outfitters on national forest lands, see Smith (1989).

In summary, the agencies responsible for managing the Lower Deschutes possess clear authority to impose restrictions on activities affecting the river and the recreational experience. Moreover, the agencies probably have a duty to take action -- at a minimum -- to protect the conditions of the river at the time of its designation. (Note, however, that courts are unwilling to force agencies to take particular actions unless requirements are "explicitly enumerated in the pertinent statutes or otherwise necessary to address constitutional concerns" (The Wilderness Society v. Tyrrel, 918 F.2d 813 (9th Cir. 1990)). This authorizes either limitations on recreation use to the levels in the year of designation or other restrictions which will prevent the decline of river conditions below those base levels.

B. Alternative Allocation Methods

As discussed previously, river managers should not simply jump to the conclusion that they must impose mandatory recreation use limits on a heavily-used area. Other, less-restrictive methods must be seriously considered and conscientiously pursued. If, however, it becomes obvious that use limitations are required, managers must determine how to allocate recreation opportunities.

It is common to see recreation allocation depicted as the division of a pie. The "pie" represents the total amount of recreation available in a particular river or river segment. Assuming that the size of the pie is determined when the total use levels are set, allocation refers

to the division of the pie into pieces (allotment) and the distribution of these pieces to various users (rationing). Perhaps no one has drawn the pie analogy out quite as far as one writer (Miller 1981):

> Bake a pie, cut it into eight pieces, destroy two of the slices and introduce ten people anxious to eat the remainder. As the pie lovers argue over whether to draw straws or divide the pie into crumb-size servings, triple the contestants and remove another three slices. What do you have? The story of America's wilderness.

Although allotment and rationing are separate steps in the allocation process, they are so closely related as to require consideration together. The essential point is that allocation distributes a limited number of river recreation opportunities among users; "it means deciding who will get to go when demand exceeds supply" (Shelby 1979).

1. The Allocation Process

a. Allotment

The first step in making an allocation decision is to determine whether there is a need to regulate different types of users separately. This is the "allotment" component of the allocation decision. There may be a number of reasons to distinguish between different types of users for management purposes: varying levels of environmental impact (overnight campers versus day-users, or larger versus smaller groups); different planning needs (out-of-state visitors needing to make firm reservations versus local boaters wanting to maintain flexible schedules); safety concerns (experienced boaters capable of handling any section of the river versus first-time boaters unfamiliar with the area); and other considerations such as administrative efficiency, protection of traditional or disadvantaged interests, and promotion of particular river experiences.

Allotment may be direct (distributing a certain number of permits to each group) or indirect (imposing restrictions that effectively limit one group differently than another).

There is nothing inherently wrong with differentiating between natural resource users. Problems arise when one group is treated unfairly (or perceives that it has been treated unfairly) in relation to another.

Ever since a "temporary" management decision on the Grand Canyon in 1972, river managers have differentiated between types of boaters on the basis of whether the boaters employ the services of guides.[4] This distinction does not appear to be related to different environmental impacts or any of the other factors listed above, although numerous justifications for distinguishing between the two have been suggested. For example, many river managers believe that the "guided" public is much less knowledgeable in permit application procedures, and therefore deserves to be insulated from competition with non-guided (sometimes called "private") boaters. And some researchers have reported that non-guided boaters are responsible for the majority of resource damage problems, due primarily to a lack of information and education (Fazio and Ratcliffe 1989). On the other hand, several studies have determined that there are no significant sociological differences between guided and non-guided boaters: both express the same reasons for taking a river trip, and neither is substantially more spontaneous or wealthy than the other (Lime 1981).

[4]Much of the literature uses the terms "outfitters" interchangeably with "guides," but the references are to commercial operators who provide full service boating trips -- "guides" under the Draft Plan's definition.

According to some, the Grand Canyon split allotment was nothing more than a "temporary holding pattern" -- "an 'accident' of history" which has had major unintended consequences: (1) guides were granted control over blocks of access rights, and could sell those increasingly valuable rights to others; (2) guides gained enormous profits by controlling the market for commercial boating opportunities; and (3) the division between sectors became arbitrary as demand changed (Shelby 1991). This argument goes on to imply that subsequent decisions to adopt this approach on other rivers reflected a misunderstanding of the management decision on the Grand Canyon.

Fundamentally, the allotment approach adopted first in the Grand Canyon and now common on limited-use rivers is intended to protect guides' business security. Consider how a guide would fare under two typical models of allotment -- one that makes this distinction ("split allotment") and the other that doesn't ("freedom of choice"):

- If a *split allotment* formula is in place, the managing agency divides permits between these two types of boaters -- often based on historical use patterns, but sometimes split evenly between the two or by some other formula. Under this allotment method, the managing agency first provides a set of permits to guides. A guide who had traditionally provided 10% of the guided boating in this river might be granted that same percentage of the guides' permit allotment. Thus the guide would know ahead of time how many permits to expect and what dates they would allow boating, and could base marketing and business planning on that knowledge.

- The *freedom of choice* approach, on the other hand, makes no division between different types of river users for purposes of allotment, but rather allows all boaters to compete equally for the limited number of permits and then decide separately whether or not to use the services of a

guide. Thus, a guide may not know with any certainty how many customers to expect in a coming season. This allotment method is promoted by several associations of private boaters, and is strenuously opposed by most guides.

Clearly the two methods have very different implications for guides and the boating public. Under the first, a guide is assured of receiving a set quantity of permits. There is no competition for permits among guides, although there certainly is competition for paying customers (Linford 1984). Non-guided boaters, on the other hand, must compete with an undefined (and likely expanding) group of other users for the rest of the permits. They have no assurance of receiving a permit in any given year.

Private boaters' organizations argue that the split allotment approach establishes special preferences and valuable property rights for commercial enterprises and allows those businesses essentially to control access to a public resource (e.g. Garren 1981). Although this argument makes sense from a public policy standpoint (and must be taken into account when an allotment decision is made), it has been rejected as a basis for forcing an agency to adopt the freedom of choice method (Wilderness Public Rights Fund v. Kleppe, 609 F.2d 1250 (9th Cir. 1979)).

The following excerpt (Eiseman 1978) capsulizes the arguments and counter-arguments over whether freedom of choice would be appropriate on the Colorado River:

> Objections have been raised to this method by the concessioners on the grounds that they would have no idea how many passengers to plan for during a river running season; consequently they would be forced out of business. Private people counter with the idea that there are too many concessioner companies as it is, and that having twenty-one river running companies is like having twenty-one telephone companies that offer the same service. Concessioners point out that there is at least some difference in their services because the nature and length of their trips and the types

> of boats they use differ. Private boaters object to the plan on the grounds that it is open to cheating, by both sides, inasmuch as one's chances for winning in the lottery would be enhanced by filing multiple applications or applying under false names or the names of friends who, if chosen, would yield up their places.

Despite many compelling arguments in its favor, the freedom of choice method has not been implemented on any limited-use river in the West. (It was adopted in the management plans for the Flathead River in Montana and the Illinois River in Oregon. See Appendix B for discussion.) There is a presumption among river managers that guided and non-guided river users should be regulated separately, and there is great hesitancy to try a new method of allotment for the first time -- particularly if it threatens to disrupt existing businesses dependent on river access.

Most river managers contacted for this study believes that a guaranteed allotment is essential in order to maintain high-quality, viable guide businesses, and that the freedom of choice approach would create chaos among guides. They believe that it is the duty of the public land management agencies to maintain opportunities for all members of the public to gain access to public resources -- including those who lack the skills or equipment to boat without a guide. For example, the management plan for the Smith River in Montana says that:

> The Department [of Fish, Wildlife and Parks] and the Forest Service have determined that it is desirable to have some commercial outfitting on the Smith River. This is due to the recognition that not all people have the specialized equipment necessary to make this type of float and not all people have the skills and experience to make a trip of this duration.

In short, although many river managers find freedom of choice interesting in principle, they are afraid that it may be an unworkable and unfair management option. Agreeing with that perspective, one observer concluded that "it is not apparent, given the fundamental differences in the groups involved, that 'free choice' necessarily guarantees 'equal opportunity'" (Smith 1989).

On the other hand, an argument can be made that the freedom of choice system is actually the closest to the status quo on rivers now lacking any allocation system. On open-access rivers in which a high proportion of guides' customers decide on the spur-of-the moment to take a trip, the guides don't know with any certainty in advance how many customers they will have or when their trips will occur. Based on past experience, they can guess that certain weekends and holidays will be busy, but until the customers show up, their investment in equipment and advertising is entirely speculative. This sounds very much like the freedom of choice scenario. As formulated in the Flathead Wild and Scenic River Management Plan, the freedom of choice model would not compromise spontaneous boaters; they would simply be required to pick up a permit (of a pool reserved for last-minute boaters) on the same day that they go on their guided trip (Penner 1985).

Guides claim (and many river managers believe) that they are likely to go out of business if not guaranteed a particular allotment of use permits. In addition to the points just made about certainty and planning, this prediction apparently has not been borne out in states that have instituted permit systems for big-game hunting and have made all the permits available in a single lottery; hunters obtaining permits may decide whether to hire a guide. Penner (1985) reported that guides did not lose business when this system was adopted; they merely had to find new ways of marketing their services. Additional information about the acceptability and administrative costs of such hunting permit systems would be helpful.

Opponents of the freedom of choice approach make a valid argument that some members of the public need the assistance of guides to enjoy the outdoors, and that access to guides should be maintained. One response specific to the rafters on Lower Deschutes is that this particular

river is relatively easy to run, and that the key "access" requirement is to rental equipment from local outfitters, not the services of guides. ("[T]he more technically difficult and logistically involving a given river outing is, the greater is the justification for commercial outfitters" (Elliott 1977); presumably the converse is true, and protection of access to guides is a lower priority on easier rivers.) These businesses should be able to stay in business so long as public demand for boating remains high. This argument is not as compelling with regard to guides who cater to anglers. The need or desire for a fishing guide bears little relation to the river's whitewater classification.

Another response to the "access" argument is based on broader principles of outdoor recreation policy. When competing users for a resource have different impacts, the resource will tend to be monopolized by visitors generating the largest negative impact since other users will tend to move away. This concept of "social succession and displacement" has been described in several articles (Ewert and Hollenhorst 1990; Schreyer and Knopf 1984). Most importantly for the present analysis, river managers should determine whether encouraging commercial river use (particularly larger, rowdier groups) will deny access to the river by "wildland-dependent" boaters. If so, managers should attempt to encourage access to more compatible river uses (including, perhaps, floating angler trips) and not be as concerned with promoting day-use rafting equipment companies.

In the end, however, an allotment method is only as good as its public acceptance and its "fit" with the particular river in which it is applied. Especially when attempting to implement a method for the first time, there must be agreement and support among the river planners and managers at the very least -- and preferably among the river users as well. Otherwise, every

setback will be viewed as evidence that the system is unworkable, rather than as a sign that the system needs some fine-tuning. The Policy Group or the Executive Review Board may very well decide that the freedom of choice method is a good option, but not for every segment on the Lower Deschutes at this time.

If a split allotment method is adopted, there are a number of options for dividing use among boaters. The Grand Canyon approach, which initially froze use at the 1972 level, is an example of the *historical use* split allotment. Many have criticized historical use because it makes assumptions about demand which frequently are invalid. For example, in 1972 few individuals could afford river rafting equipment; even fewer were qualified to navigate the rapids of the Grand Canyon without a professional guide. But the situation changed dramatically in subsequent years as more and more individuals became interested in whitewater rafting, more opportunities became available to learn the techniques, and equipment manufacturers began selling rubber rafts for greatly reduced prices. The numbers of private boaters competing for a very limited number of permits led to a serious discrepancy in access to the river. Consider the plight of an individual wishing to raft the river: if she can afford to pay for a guided trip, she can sign up immediately; if not, she will have to wait at least six years for her opportunity to receive a private boater's permit (Cole 1989). When access for private boaters becomes nearly impossible and the only realistic means to boat a river is to sign up with a guided trip, the commercial rafting companies become purveyors of a public resource -- access to the river by members of the public.

Others have remarked on the inequities that arise when historical use is used to distribute scarce resources. One researcher commented that use distribution at any particular time "may be no more than an historical accident" (McCool 1978). Still, this remains the most popular method

for allotting use on limited-use rivers -- probably because it purports to maintain the status quo. Maintaining one-time use patterns at the expense of changing demands in the future, however, does not appear to serve the public interest well.

Other split allotment approaches are possible. Some river allotments have divided permits evenly between outfitters and private boaters (the *even-split* method), assuming that such a split is the most "fair." Unfortunately, this is likely not to represent actual demand, and would be difficult to defend if one user group has traditionally used significantly more than half of the river recreation opportunities.

Although less typical, another approach is to calculate a *flexible allotment formula*, which changes periodically based on demonstrated demand (probably based on the number of permit applications received) or according to management goals to redistribute use to less-busy times. One commentator (Abbott 1986) urged river managers in Maine seeking to redirect boaters from congested weekends were urged to adopt the following scheme:

> To alter the present unbalanced use pattern, the state could establish a sliding permit schedule that assesses the highest permit fee for an outfitter whose total weekday use fails to meet a specified percentage of the outfitter's weekend allocation. For example, using a sixty percent goal, an outfitter with an 80-person Kennebec allocation would have a total weekday goal of forty-eight people. If the outfitter's actual total use over the weekdays was substantially below forty-eight people, the state permit fee for that week would be highest; if weekday use was substantially above the 48-person goal, the outfitter could establish a credit against its permit fee. The provision could be part of a new allocation system or incorporated into the existing system.

Along similar lines, river managers could readjust allotments based on target use levels on weekends and weekdays.

Another variation on this approach is the *percentage of disappointment* method urged by Roderick Nash. As summarized in one article (Elliott 1977), this approach would work as follows:

> The percentage of disappointment (or demand excess) should be the same on a given river in a given season for both commercial and noncommercial users. For example, if 3,000 qualified noncommercial persons applied for a permit but ceilings and allotments permitted only 1,000 to run, the percentage of disappointment is 2/3 or 67 percent. To justify such a denial there should be documented evidence that this same percentage of disappointment existed for commercial users.

Another method for compensating for changing demands is to provide a *common pool* into which unused permits from either sector are made available to anyone -- usually later applicants. (This can help compensate for the "no show" problem.) As described below in the section on allocation examples, this is a very common feature of allocation schemes, usually combined with a historical split or even-split allotment.

Determining what boaters want in an allotment method is not easy. They tend to favor familiar approaches, and they express support for methods that offer the best chances of their own success. Boaters surveyed on the Middle Fork Salmon River appeared most willing to try a variation on the even-split allotment method which would allow unused permits from one sector to be used by the other; surveyed boaters (both guided and non-guided) generally did not express support for the freedom of choice model, although non-guided boaters were about twice as likely as guided boaters to favor it (McCool and Utter 1981). Any allotment formula should reflect current and projected demand and should be flexible enough to accommodate changes in demand; as demonstrated on the Colorado River, this can be a very difficult task.

b. Rationing

Whether or not a decision is made to distinguish between types of users, a recreation allocation system must set forth the methods by which limited uses will be distributed. Thus, choosing a rationing method is the second part of an allocation decision. If a split allotment is in place, these rationing methods apply separately for different classifications of users; presumably under the freedom of choice approach all users would be treated the same under these rationing methods.

What are the options for distributing limited recreation use permits? One of the earliest (and still one of the best) comprehensive discussions of rationing methods dealt with the problem of limiting uses in wilderness areas (Stankey and Baden 1977). The authors of that report set forth five rationing approaches: (1) advance reservation; (2) lottery; (3) queuing; (4) pricing; and (5) merit. Each of these is described below, together with commentary on its benefits and drawbacks. Also summarized below are the evaluations of several researchers who have reviewed existing rationing approaches. Shelby (1991) looked at four goals of rationing methods:

> Equality: Everyone has access to equal shares or an equal opportunity to obtain a commodity;
>
> Equity: Individual's contributions are balanced with outcomes, so that those who contribute more should get more;
>
> Efficiency: System is easy to understand and no-shows are minimized; and
>
> Need: Different needs of different users are recognized and protected.

The other studies mentioned in this discussion (McCool and Utter 1981; Shelby, Danley, Gibbs, and Petersen 1982; and Wikle 1991) asked different combinations of river users and managers about their perceptions of each of the following rationing methods.

Advance Reservation: Just as limited seats on airplanes are distributed to those who plan ahead and reserve them, this method requires users to decide their recreation plans in advance. Depending on the system, reservations may be made by telephone or mail, with early requests favored over later ones.

This method appears to enjoy broad support by river users. A survey conducted in 1978 on the Middle Fork of the Salmon River ("Middle Fork Survey") found that the advance reservation method was the most attractive option to boaters using the services of outfitters (McCool and Utter 1981). A 1977 survey of river users on the Hells Canyon of the Snake River ("Hells Canyon Survey"), which did not differentiate between guided and non-guided boaters, also found the advance reservation method to be the most popular among boaters (Shelby, Danley, Gibbs, and Petersen 1982). A comparison of river users and managers in 1988 ("Wikle Survey") found that the boaters support advance reservations to a significantly greater extent than do managers (Wikle 1991). Shelby (1991) concluded that reservation systems satisfy equality, need and equity goals, but the efficiency goal may be frustrated if there are many "no shows."

River managers may be reluctant to implement the advance reservation method because it requires fairly extensive record-keeping and correspondence, and thus may be expensive to operate. This method also can lead to administrative problems if many people reserve places ahead of time and then change their minds (the "no show" problem). Some observers have claimed that the advance reservation method tends to discriminate against groups of people who cannot plan far enough ahead with certainty to meet the reservation requirements (Stankey and Baden 1977). Yet studies have indicated that concerns about discrimination may be allayed by

implementing a reservation system that permits some spontaneous trips (Schomaker and Leatherberry 1983).

Lottery: Rationing uses by a lottery system is similar to the advance reservation system, but the recreation use permits are distributed by random selection among those who enter their names ahead of time. (In other words, the particular order in which the names were entered prior to a deadline is unimportant.) Entries may be made by telephone or mail, and results may be communicated by mail or recorded telephone message. A lottery may be "pure" (everyone has an equal chance) or may be modified to give a preference to certain applicants (for example, persons who have tried unsuccessfully to obtain a permit in the past). Lotteries have most commonly been used to distribute big-game hunting permits, although they are also in place in some limited-use rivers.

The Middle Fork Survey found that the lottery system was the most popular rationing method among non-guided boaters -- both those that had received permits and those that had been denied a permit to float on the river in a lottery system. Although guided boaters on the Middle Fork preferred the advance reservation system, over half of them also found the lottery approach acceptable. The Hells Canyon Survey found considerably less support for the lottery method, with most boaters preferring advance reservations or pricing. The Wikle Survey found no significant difference between river users and managers in their views of the lottery method. Shelby concluded that the lottery approach serves the equality goal well, and (if modified) can serve equity, efficiency and need goals as well.

Many of the same objections are made to the lottery approach as to the advance reservation method: it requires people to plan far in advance of their trip (and thus may result in a loss of spontaneity and a problem with "no-shows"), and it can be expensive to administer. Perhaps the most promising feature of a lottery is that it can be used to inform potential applicants ahead of time of their chances of receiving a permit at a particular time or location; that knowledge may encourage of applicants to apply for a less-popular slot, and thus may result in a voluntary redistribution of use.

Queuing: "First come, first served" is the principle of the advance reservation approach, but it is also the basis of the queuing (or waiting-in-line) method of rationing. In this case, persons wanting to boat on a river must arrive early enough to fill the available slots. Thus, those willing to pay the highest "price" in terms of time will receive the benefits of enjoying the river. Queuing is best known as a method of rationing tickets for sports events or concerts.

The Middle Fork Survey did not include the option of queuing. Most of the boaters responding to the Hells Canyon Survey rejected this method; in contrast, backpackers in limited-use wilderness areas found queuing more palatable than the lottery system. The Wikle Survey found no significant difference between boaters and river managers in their opinions of the queuing method of rationing. Shelby concluded that queuing serves the equality goal in theory, but generally not in practice since not everyone has the time to wait in line.

There are several problems with queuing as a general approach to rationing boating permits. First, this method favors those individuals who have the most free time to spare, and thus may discriminate against those leading more structured lives. Second, queuing requires river

managers to construct facilities to accommodate hopeful recreation users who arrive early to wait in line. Finally, the method may be wasteful if too many people are turned away after spending time waiting; many of these people will have travelled a long distance and invested time and money in the expectation of enjoying the river. This was one of the problems reported with an early attempt to limit backpacking use of Rocky Mountain National Park (Fazio and Gilbert 1974).

For these reasons, queuing is seldom advocated as an exclusive option for rationing river use. On the other hand, queuing may be used in combination with one of the other approaches to accommodate those whose schedules do not permit long-term planning, or to fill the slots left open by no-shows under reservation or lottery systems.

Price: Requiring users to pay for a resource can be the most direct method of relating demand to supply. A sophisticated recreational fee system could have many beneficial effects. For example, river managers could charge higher fees during busy summer weekends in order to encourage boaters to use the river during weekdays. (Such differential fees are common in telephone and utility service, and have the advantage of providing incentives to use the resource differently rather than imposing direct regulation.) If a split allotment is implemented, pricing is usually the mechanism by which outfitters ration their services to potential customers.

The Middle Fork Survey did not include a pricing option. The Hells Canyon Survey found considerable support for this rationing method among boaters -- the only approach deemed more attractive was advance reservation. The Wikle Survey, on the other hand, found that both boaters and river managers reacted most negatively to pricing as a method of rationing boating

permits. Shelby concluded that pricing maximizes efficiency but works counter to equality, need, and equity goals.

Pricing appeals to those who feel that recreation benefits should be allocated to those who demonstrate the highest demand. Certainly our market-based economy recognizes that demand is reflected in the price consumers are willing to pay for a good. Yet many feel that pricing is simply inappropriate for a public resource such as river recreation; that opportunities to enjoy public lands and waters should be available to all on some equal basis -- not ability to pay. This view holds that "public recreation has a higher sense of purpose than turning a profit . . . public recreation ought to be governed by a social service ethic that rises above bottom-line thinking" (Schultz, McAvoy and Dustin 1988). Stated differently: "In an age when almost everything has a price, is there not a particular value in maintaining some things as priceless?" (Dustin 1986).

Merit: A rationing system based on demonstration of merit would evaluate users by their relevant skills and knowledge, then distribute use permits to those ranked highest. This method is not used in any outdoor recreation setting, although hunters must demonstrate minimum skill by passing a hunter safety class.

The Middle Fork Survey did not include a merit-based rationing selection. The Hells Canyon Survey found moderate-to-low support for merit systems among boaters, generally just above queuing as a method for rationing limited permits. (It found slightly higher support for the merit approach among backpackers in wilderness areas.) The Wikle Survey found that significantly more boaters than river managers favored rationing based on merit, probably due to

the perceived administrative difficulties in assessing merit qualifications. Shelby concluded that the merit approach addresses equity and efficiency goals, possibly at the expense of equality and need.

Those who have advocated merit-based approaches for wilderness areas have pointed out that problems of resource damage are usually caused by ignorant visitors, not simply large numbers of visitors. One observer, writing in 1940, called for a class of "certified outdoorsmen" with demonstrated proficiency and sensitivity to the environmental impacts of their activities (Wagar 1940). A more recent proponent of this approach argued that a wilderness should be a difficult and challenging place to visit, and that only those with appropriate skills and physical condition should be permitted to enjoy it; in order to preserve the special experience, public agencies should not be expected to provide roads or emergency services for wilderness adventurers (Hardin 1969).

Another proponent listed the following benefits of allocating wildland recreation by merit criteria: reduction of per capita visitor impacts; promotion of an "American outdoor ethic"; preservation of resource-dependent recreation opportunities; promotion of recreation self-sufficiency; reduction in accidents, injuries, and deaths; reduction in the number of searches and rescues; criteria merit for rationing and distributing use; effective medium for communicating visitor information; less need for direct or "heavy handed" management; shift in management away from the resource setting, focusing outside and prior to the visitor experience; establish minimum competency standards for outdoor professionals; private landowner assurance that the public will exercise reasonable care and respect, thus encouraging more public access to private resources; and revenue though instructional fees and book sales (Ewert and Hollenhorst 1990).

In terms of river recreation, this rationing method might be seen as a means to encourage boaters to become self-sufficient and less dependent on guides. For their part, guides may adapt to the program by offering rafting trips aimed at training new boaters wishing to obtain their credentials. (This could raise the sophistication of commercial boating trips to educational expeditions rather than simply "party trips.") An allocation method based on merit might provide the greatest number of permits to those with demonstrated abilities to run the river on their own (allotment), and might make permits easier to obtain for those with the greatest skills (rationing).

2. Comparing Proposed Allocation Methods for the Lower Deschutes

The proposed allocation approaches currently before the Executive Review Board utilize several of these methods. Of particular note, the proposals contained in the Draft Plan have been modified or replaced by combinations of approaches that are more flexible and tailored to fit the needs of the Lower Deschutes River. In reviewing the proposals, the Board should keep in mind that the consensus of recreation planners is that a single approach will not satisfy everyone, as allocation by its very nature denies access to some: "The relevant question is not how to prevent rationing from being discriminatory, but rather, how to spread these discriminatory costs across the spectrum of users" (Stankey 1977). Thus, the alternatives offering the greatest spectrum of opportunities for river users should be favored.

One comment noted in the draft version of this report was that the Draft Plan contained little discussion of rationing options. The rationing questions was discussed during the course of the Policy Group meetings in November, and it became clear that the most attractive method to most was an advance reservation system (designated as "first-come, first-served" in reports

prepared after the meetings) with a waiting list to accommodate latecomers. (The Policy Group's materials include an additional provision to allow future consideration of another option: reserving a percentage of available permits for spontaneous users.) The Policy Group included its decision on rationing methods as part of a group of elements that any proposal for a limited entry/allocation system ought to include. The Policy Group's attention to this matter is to be commended, as much of the uncertainty about the proposed alternatives arose from the question of how they would be implemented.

The November meetings produced a new set of proposed allocation methods: the preferred alternative (as in the Draft Plan), the "50/50" alternative, the "generic" alternative, and a new version of the common pool alternative. Each of these is discussed below.

The Preferred Alternative

This alternative proposes a combination of split allotment and common-pool rationing. As described in the Draft Plan, 40% of the total permits would be allotted to the common pool, available to both private boaters and guides. The remaining 60% of the permits would be allotted between private boaters and guides based on an historical-use formula (calculated on the basis of observed uses during 1992-1994). There is a provision to readjust the allotment every five years to account for changed demands. Commercial permits would come available on March 1 of the year preceding the launch, private boaters may obtain permits as early as December 1 of the year preceding the launch, and common-pool permits would be issued starting on April 1 of the launch year.

An earlier objection to this alternative was that it allowed guides to transfer their permits, thus threatening to convert their access to the river into a valuable property right. Apparently this alternative still allows some transfer of allotment, although the risk of a small number of guides gaining a monopoly on river access is lessened when there is no cap on the total number of guides. Any method adopting a split allotment inherently shifts some control over river access to those who are guaranteed access, and thus does raise public policy concerns about private control of public resources.

On the other hand, the major objection to split allotments -- the tendency for guided boaters to enjoy much easier access than non-guided boaters -- may well be addressed by the large common pool in this alternative. Non-guided boaters have two windows of opportunity to obtain reservations for river access: December 1 (when the reservations for non-guided boater permits begin) or April 1 (when the reservation system for common-pool trips opens). Of course, those non-guided boaters who are unable to plan that far in advance will be faced with the choice of boating on days when permits are not required or joining a waiting list for permits on popular days.

The 50/50 Alternative

This is another combination of split allotment and common pool; this alternative attempts to account for two different planning horizons in the timing of permit availability. Half of all available permits would be available prior to March 1 of the launch year. Of that allotment, guides could begin claiming their portion of permits (12.5% of the total) starting February 1 of the preceding year; non-guided boaters could obtain permits (up to a 37.5% of the total) starting March 1 of the preceding year. Then, starting on March 1 of the launch year, any permits

remaining from the initial allotment (advance planners would have to confirm their plans by March 1 to retain their access privilege) and all the remaining permits (50% of the total) would be available in a common pool.

The comments regarding the preferred alternative apply to this one as well. The primary difference between the two is that the divisions between guided and non-guided permits is defined (and, apparently, will not change over time with changing demand levels) and non-guided boaters can obtain permits earlier. This alternative raises the same concerns about guides controlling some portion of river access.

The Generic Alternative

This alternative proposes a segment-by-segment implementation of the freedom of choice allotment method, using advance reservation as the rationing method applicable both to guided and non-guided boaters. It provides for a review after three years in order to address a number of concerns about this approach. After a third-party researcher conducts an analysis, the parties would meet to discuss the results and to decide whether the approach should be continued or altered to adjust for any observed problems.

This alternative answers many of the concerns expressed in the course of the present research. It proposes a gradual implementation of an approach which appears promising but has not been implemented in other western rivers. The provision for review after three years encourages support from those now skeptical about the viability of this approach, and it guarantees that changing needs will be aired and considered. Such a review would be helpful under any of the proposed alternatives, but it is particularly appropriate for this one. This

alternative also adopts a segment-by-segment management approach, which is clearly appropriate under the Lower Deschutes' planning guidelines.

This alternative implies that guides will be entitled to a guaranteed allotment of permits, approximately 12.5% of the total. As explained earlier, any guarantee of historical use raises public policy questions about access to public resources and accurate reflection of current and changing demands. If the Lower Deschutes is to be managed through the freedom of choice model, guaranteed allotments are not appropriate.

The New Common Pool System

This is similar to Alternative 4 in the Draft Plan (a modified freedom of choice method), but it includes additional provisions outlining rationing methods and it allows for a longer planning horizon (there is no set date for permit distribution). All of the concerns outlined in the draft version of this report were answered by the changes in the proposal.

As described earlier, a freedom of choice method offers the best opportunity to reflect changing user demands and ensure open access to the public, so long as it is not implemented in such a way that certain categories of users are at a disadvantage in obtaining permits. For example, in the rationing method proposed in this alternative, all boaters would be eligible to apply for permits in advance and all permits would be available through an advance reservation system. If one segment of boaters consistently tends to arrange trips later than the other, then this method indirectly discriminates against them. This underscores the importance of considering later-planners and spontaneous users in designing a permit distribution schedule; it is not necessarily an objection specific to the new common pool alternative.

D. Other Considerations

In addition to the Draft Plan's list of criteria for evaluating allocation options, other considerations may be taken into account in making a final decision. For example, the management objectives for the Lower Deschutes include commitments to pursue indirect controls before imposing direct controls and to manage the river on a segment-by-segment basis. The specific conditions on the Lower Deschutes and the political climate in which planning takes place also must be taken into account.

The general theory that indirect controls should be pursued before use limitations are imposed has been discussed earlier in this analysis. This general objective might also be interpreted as favoring a combination of allocation methods that provide the least direct restrictions -- and thus the most opportunities for river users to choose the best one for them. The proposed alternatives do provide choices of planning horizons (through staggered permit-availability dates), although perhaps there should be more explicit provisions for last-minute boaters.

Similarly, the principle that the river should be managed on a segment-by-segment basis suggests some management options not addressed in this plan. The Draft Plan only differentiates among segments in setting use limits, not in determining the need for regulation at all or the appropriateness of particular allocation methods. The "generic" alternative, as currently formulated, begins to answer this need by recommending implementation of a freedom of choice allocation system on a segment-by-segment basis. Planners might find it helpful to examine the variable levels of management proposed for the Arkansas River in Colorado and the Flathead

River in Montana (discussed in Appendix B), or they might decide to experiment with a particular combination of use limits in one or two segments at a time.

This suggests at least one management option not included in the Draft Plan -- an approach using the concept of "zoning" rather than direct user controls. If strict use *limits* and permits were imposed only on Segment One, boaters would have the opportunity to choose a more wilderness-like experience there (and put up with regulations) or a "splash-and-giggle" (and less regulated) experience on Segment Two. Similarly, an alternative allocation approach might favor one type of boater (e.g. guided anglers) on one segment and another (e.g. rafters) on a different segment based on boater preferences, resource protection concerns, etc. And permits could be rationed differently on different segments, with more available in advance (through a reservation system) on segments in which boaters tend to plan their trips far ahead of time, and more available only near the day of a boating trip on segments in which spontaneous day trips are the norm.

A very important group of considerations arises from the setting in which this planning process is taking place -- the Lower Deschutes River basin. There are a number of factors that should be taken into account in deciding upon approaches to limit boating uses. These factors are familiar to members of the planning team, but a short list will point out some of the more obvious concerns and their management implications:

(1) Access to the river is very easy, particularly by automobile (launch controls may be difficult to enforce);

(2) There is an unusually high number of outfitters, many of whom simply rent equipment to private boaters (it may be difficult to distinguish between outfitted and private boaters for allocation purposes);

(3) Many boaters use the river only for day-trips (campsites are unlikely to be the limiting factor for the segments of the river where this is true);

(4) Typically boaters use more than one segment at a time (restricting use to a single segment may be difficult);

(5) Fishing is an especially important feature of the river (allocation schemes developed for rivers with primarily whitewater rafting may not translate well to this one); and

(6) Boaters on Segment Two appear not to mind crowds; they may actually be attracted to the area by the social interactions available there (limiting use on this segment based on a perceived demand for wilderness-like recreation may be misguided, although river managers remain subject to legal requirements to protect the river's natural environment from degradation).

A final consideration is the acceptability of the proposed allocation method. Telephone conversations with participants in the Lower Deschutes planning process revealed a great deal of concern about the reaction of both guides and private boaters to use limits and allocation approaches. There seems to be a general belief that the use limits in the Draft Plan are not supported by reliable data on current boater use or environmental conditions. And there is a palpable fear of trying a new method of allocation (particularly freedom of choice) without more information -- although members of the planning team suggested that they would consider trying a new approach if it were implemented gradually. This tentative acceptance of the freedom of choice method is reflected in the new "generic" alternative.

Given the complicated political situation on the Lower Deschutes, there is a great deal of pressure on each person representing an interest group not to "give in." There is also a great deal of suspicion concerning "hidden agendas" of various groups. This makes rational, long-term planning difficult, to say the least. Each member of the team should acknowledge the valid concerns of the others and to seek options that address these concerns. The goal should be a long-term, flexible plan which protects the special qualities of the Lower Deschutes River and maintains the quality recreation opportunities that make it so popular.

IV. Conclusions and Recommendations

The draft report released in early November did not set forth specific recommendations for alternatives to be adopted in the Lower Deschutes Planning process, but instead presented some preliminary observations to suggest ideas for useful discussion on recreation allocation issues. Following the November meetings of the Policy Group and further discussions with participants, the following recommendations have grown from those observations.

The Final Plan should guarantee that all indirect means of reducing recreation impacts will be explored before use limits are imposed.

The majority of recreation policy experts agree and the management objectives guiding the present planning process direct that recreation use limits are only to be imposed if all other management options are considered and found insufficient to protect the river resource. Thus, the present planning process must include a management structure that allows individual choices for resource use, while encouraging choices that will better protect the quality of the natural environment and recreation experience.

Several indirect means for reducing recreation impacts have been discussed or referenced in this report. These methods include: providing information to river users in advance of their trip concerning river use levels, alternatives, and low-impact boating tips; requiring registration without limiting access; and restricting access to over-used launchsites. Wilderness area and river managers sometimes use mandatory registration without access limits in order to distribute information to recreationists and to gather information on the recreation uses to guide future management decisions.

Other approaches that might be considered on the Lower Deschutes include: limiting access to campsites; providing (or permitting one outfitter to provide) a shuttle service to reduce congestion at popular take-out points; and imposing time restrictions on certain recreational activities determined to have the most negative impacts on other recreational users.

The Policy Group's recommendation not to impose any limits for at least three years is a positive sign that these concerns are being addressed. Moreover, it is clear that river managers are receiving numerous suggestions from boating anglers and other members of the public concerning indirect controls.

The Final Plan should consider limiting recreation use on selected portions of the Lower Deschutes rather than on the entire 100-mile stretch.

The management objectives for the Lower Deschutes include a strong directive to manage the river on a segment-by-segment basis. Although the Draft Plan proposes use limits for individual segments, there do not seem to be many other attempts to carry out this objective. Given the length of the Lower Deschutes and the wide variety of use levels and activities on

different segments, more segment-specific management approaches appear especially practical. Moreover, the limiting factors that influence choices of allocation methods may differ between segments of the Lower Deschutes.

This report has suggested several approaches to focus management efforts on particular river segments. For example, one segment may be chosen as a "test" area for trying a new allocation method -- giving river users a choice to comply with the restrictions and enjoy a more secluded boating experience or avoid the restrictions and boat on a more crowded river segment. Good models for a segment-specific approach could be the Arkansas River in Colorado or the Flathead River in Montana, described in Appendix B.

The Policy Group's recommendation only to impose use limits during the busiest weekends of the summer recognizes the value of partial regulation. The same principle should apply to segment-specific use limits. Presently, only the "generic" alternative appears to adopt this approach.

A split allotment may be advisable on the Lower Deschutes, but the division of permits between guided and non-guided boaters must be flexible and subject to change in response to changing demands.

One of the Policy Group's policy criteria for choosing an allocation method was to protect the viability of existing guides operating on the Lower Deschutes. This is a valid public policy concern, and is reflected in other river management plans. Nonetheless, the Policy Group properly balanced this concern with one stating that the system should not create a private

property right out of a public resource. The proposed split allotment approach in several of the alternatives may satisfy the first criterion at the expense of the second.

This report has set forth the arguments on both sides of split allotments and freedom of choice. The ultimate decision of which to choose must be with the Policy Group, or if necessary the Executive Review Board. Their decision will require a determination as to whether differentiating between private boaters and guides or outfitters is necessary in order to protect the businesses that depend upon use of the Lower Deschutes. It may be that a split allotment is appropriate, but that the division should be drawn between types of activities on the river, or length of stay, or some other relevant criteria. Moreover, any split allotment must contain safeguards to protect against inequitable distribution of river access; strict adherence to a historical-use formula has proven to be an expedient but ultimately unfair approach.

The freedom of choice allotment option could be adapted to fit the needs of the Lower Deschutes, but it must be accepted by river planners, managers, and the public.

The freedom of choice method of allotting river recreation has been discussed for many years but has not been implemented on any limited-access river in the West. Adopting any untried method is difficult and controversial. Therefore, choosing this option would require a level of commitment by river planners and managers that may not be present at this time on the Lower Deschutes.

Nonetheless, it is significant that the Draft Plan and the Policy Group have given serious consideration to the freedom of choice option. The proposed "generic" alternative would allow river managers to experiment with the freedom of choice method on a limited basis, one river

segment at a time. That alternative has its drawbacks (particularly in its implied guarantee of allotments); the "new common pool system" is closer to "pure" freedom of choice.

In making a decision on the freedom of choice issue, it is particularly difficult to separate bargaining positions from actual needs. Planners for the Lower Deschutes must bear in mind that the Wild and Scenic Rivers Act requires preservation of outstanding river qualities -- not preservation of commercial enterprises. To be sure, one river quality that should be protected is the public's opportunity to enjoy the river with the assistance of a guide, but this assurance of recreation access should not be pursued at the expense of the primary values ("esthetic, scenic, historic, archeologic, and scientific features") enumerated in the Wild and Scenic Rivers Act. Thus, maintaining the integrity of the river should be of highest priority in this decision, not maintaining the commercial viability of certain river-dependent businesses.

Because the freedom of choice model has yet to be implemented on any limited-entry river, it is simply impossible to predict the consequences if this approach were adopted on the Lower Deschutes. The rationale behind the management decision on the Flathead River in Montana (see discussion in Appendix B) appears well-reasoned. Managers there concluded that freedom of choice would not deny access to guides and outfitters, but rather would open the market to better reflect demand; conceivably every person obtaining a permit could decide to go with a guide. Although many river managers take a different view (one more conciliatory to the positions of commercial interests), it is important to note that that view is not unanimous. Finally, the provisions for review and evaluation in the "generic" alternative offer a solution to the fear of the unknown inherent in selection of a new approach, although some of the suggested criteria for review may not be appropriate.

The final decision in choosing an allocation approach must recognize that the most important factor is its "fit" with the particular river segment.

Only the Policy Group, the Executive Review Board, and the members of the public particularly attuned to the situation on the Lower Deschutes can identify the limiting factors on this river and on its individual segments. Any decision to limit or allocate recreation uses on the river must be shaped around these particular factors -- not some "model" allocation method developed in a vacuum by recreation policy experts. The greatest source of expertise is in the collective knowledge and creative ideas of the very individuals who know the river best -- the boaters, anglers, river managers, adjacent landowners, and local businesses. The evolution of the various alternatives since the release of the Draft Plan proves that more creative approaches are possible as more parties become involved and suggest combinations of approaches based on their knowledge of the river and the river users.

It is hoped that this report has provided additional information to spark new ideas for action by this group of individuals and representatives with common interests in preserving the quality environment of the Lower Deschutes for the long run.

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Appendix B: Lessons From Other Rivers With (Existing or Proposed) Recreation Use Limitations

A. Overview

It has been reported that there are 45 rivers or river segments in the United States with recreation-use limitations (McCool and Utter 1981). One river manager contacted in this research effort reported that there are fourteen rivers or river segments in the West in which boating permits are allocated to commercial and private boaters. At least one river (the North Fork of the Flathead) has rejected the split allotment approach and adopted the freedom of choice method in its management plan, although that method has not been implemented yet.

This research included contacts with river managers from nine river recreation areas to discuss methods of limiting recreation use and allocating permits among boaters. Summaries of the discussions are outlined below, followed by some general observations drawn from these examples. The limited scope of this research did not allow telephone contacts with river users or guides operating these river segments. Thus, the perspectives presented here are only those of river managers, and for that reason are of somewhat limited utility.

B. Examples

Cataract Canyon, Colorado River, Utah

Contact: Dave Walton, (801) 259-5277

Cataract Canyon is within Canyonlands National Park, and is not designated under the Wild and Scenic Rivers Act. The area has adequate beach areas for camping, so the number of launches is not as limited as in Dinosaur National Monument to the north. The total use permitted is 8,000 boater days per year, but this number has never been reached; typical usage is closer to 6,600 boater days. The permitting system recognizes 20 allotments, including 18 outfitters and one allotment of approximately 750 private boaters. The remaining 315 boater days are retained as a pool to go to either type of user, depending on fluctuating demands. Private permits are rationed on an individual basis.

This river segment is unusual among limited-use rivers in that its ceiling of total usage has never been reached. Private boaters have easy access to permits, so long as they plan at least a week ahead of time. Outfitters are required to pay for all their allotted boater days, so they are encouraged to "turn in" the days they don't fill; these extra boater days then become available for private boaters to use on short notice.

If a new company buys an existing outfitter business it may go through the review process to obtain a permit to use the river. Although such reviews may result in permit denial, and although the permits themselves are government property and cannot be sold, this procedure results in outfitters effectively "selling" their access to the river.

Tuolumne River, California

Contact: Bill Lane, U.S. Forest Service, (209) 962-7825.

The Tuolumne River is classified as a wild river. It has had a limited-entry system for boaters for about 15 years. The total carrying capacity is based on the river's boat launch capability and campsite availability. Boating use is allotted between private boaters and outfitters, with private boaters allowed 90 people per day and outfitters two launches of no more than 26 people each. The typical private boat trip is about half a day shorter than the average commercial trip, so the river managers figure that these numbers even out about equally. The maximum number of private boaters on the river was 4,400 in 1984; the maximum number of outfitted boaters was 3,536 in 1985.

The ten outfitters on the Tuolumne operate under five-year special-use permits, which were granted after a review process that examined the outfitters' experience, financial stability, and business operations. There seems to be a declining demand for outfitted boating. Outfitters may sell their businesses to others, but the new operators have no assurance of receiving a new special-use permit. So far, however, the two sales of outfitting businesses have been to companies that satisfied the Forest Service's review process and obtained their own permits to operate.

Private boaters may obtain permits to float the Tuolumne in two ways. They may simply come to the District Ranger's office and obtain a free permit on the day they wish to boat (basically a "queuing" approach). Or they may obtain a permit in advance for $5.00 by advance reservation. Those who have reserved permits must pick them up by 10:00 am on the day of use or they are voided and made available to walk-ins. River managers report that private boaters

have a fairly good chance of getting on the river using either of these methods (most use the reservation method), although some private boaters strongly disagree. The only time the allocation is filled is on Fridays and Saturdays; the Forest Service is trying to promote use on weekdays.

Middle Fork Salmon River, Idaho

Contact: Ted Anderson, Forest Service, (208) 879-5204

The Middle Fork Salmon River is designated as a wild river segment. It has a limited-entry system in effect from June 1 to September 3, during which private boaters may make 373 launches (56% of the total permitted launches), outfitters may make 288 launches (43%), and a boy scout group may make 6 launches (nearly 1%). (The scout group enjoys a special "grandfathered" privilege to continue its trips.) The current limited-entry system allows a total of seven launches per day.

When the permitting system was established in 1973 the allotment of outfitters' permits within their 43% total share was determined by their historical use of the river. To determine historical use, the river managers sent letters to all outfitters and required them to respond if they wished to be included. Only 32 outfitters responded. Today the total number of outfitters has reduced somewhat, although the total number of outfitted launches has remained the same; when one outfitter sells a business to another, the launch permits are assumable.

Private boaters obtain launch permits in a lottery. There are typically 6,000 applicants for 373 launches each year. The lottery covers access to four rivers -- the Snake, the Main Salmon,

the Middle Fork Salmon, and the Selway -- and applicants must designate a first and second choice river. There tend to be quite a few cancellations, and these additional permits are made available to the public through a telephone reservation system (first-come, first-served). The river managers must deal with approximately 150 telephone calls per day.

The river managers are struggling with the impacts of relatively high use levels on this section of the river. The Middle Fork runs through a wilderness area, so the managers are obligated to protect the resource and keep a secluded visitor experience. They are finding it difficult to reduce the levels of use, and recommend that other river managers be careful not to set use levels too high to start with: "You can always decide to increase use later -- it's hard to decrease it."

Westwater Canyon, Colorado River Utah

Contact: Alex Vanhemert, BLM, (801) 259-8193.

Westwater Canyon is not designated under the Wild and Scenic Rivers Act. Recreation use limits are based on a 50%/50% split between private boaters and outfitters, which was simply an arbitrary figure set at the time of allocation. There is no management plan for this river segment. The total use is approximately 14,000 boater days per year.

Within the outfitters' allotment, the permits are rationed between the 18 outfitters based on their historical use of the river. The commercial allotment may be readjusted based on patterns of use over five years of operations.

Private boaters obtain permits in a lottery in March of each year (in which 67% of the applicants receive permits) or by participating in a waiting list or calling in shortly before the proposed trip. Because of the high number of no-shows, this results in a fairly high probability that any individual will be able to take at least one trip on the river each year. Each private boater permit allows up to 25 people per trip.

San Juan River, Utah

Contact: Alex Vanhemert, BLM, (801) 259-8193.

The San Juan River, like Westwater Canyon, has an arbitrary 50%/50% split allotment between private boaters and outfitters. There are eleven outfitters on the San Juan, and their business makes up about 20% of the total 40,000 boater days annually. (This discrepancy between allotment and actual use is prompting a reevaluation of the split between private boaters and outfitters.)

The rationing techniques on the San Juan are close to those described above for Westwater Canyon. Private boaters have a higher probability of obtaining a permit through the San Juan's lottery, but permits are also available later by joining a waiting list or calling for no-shows.

Rogue River, Oregon

Contact: Jim Leffman, BLM, (503) 770-2200.

The Rogue River, designated as a wild river, has been a limited-entry river since 1978. The limited-entry season runs from June 1 through the middle of September. For management purposes, the river's carrying capacity is estimated to be 120 people per day. This total was allotted between private and commercial boaters based on two factors: (1) historical use patterns of roughly 70% commercial and 30% private boaters; and (2) a recognition that private boater demand would increase as technological advances made rafting equipment available to more individuals. The "politically expedient" approach appeared to be an even split -- half the permits to guides and half to private boaters. That split allotment is still in place today, although the BLM is planning to reevaluate the allotment in a joint planning process with the Forest Service. (They don't expect to make any major changes.)

Within the 50% of the permits allotted to outfitters, each outfitter's allotment is based on documented historical use of the river. Each outfitter has the same sequence of start dates every year. To aid the public wishing to raft the river with a guide, the river manager publishes a calendar showing these start dates; the customers are then able to contact the appropriate outfitters to make reservations. Outfitters wishing to sell their businesses are able to assure the buyers of access to the same start dates.

Within the 50% allotment to private boaters, individual permits are rationed in a computerized lottery process. Approximately one out of six applicants gets a permit. The private boater permits that are not claimed are made available to private boaters and outfitters in two

pools. Overall, according to a river manager, it is "not too difficult to get on the river, if you're willing to wait a couple of days." Again, private boaters have expressed opposite conclusions.

Interestingly, outsiders' perceptions of the Rogue River are far more pessimistic. Several contacts cited the Rogue's allocation system as a "bad example" for the Deschutes to avoid. Another (a river manager) said that the odds are very poor for private boaters to get on the river -- approximately ten-to-one against obtaining a permit. Future research should include discussions with private boaters and guides operating on the Rogue to determine which perspective is accurate.

Illinois River, Oregon

Contact: Katie Wetzel, Forest Service (503) 592-2166.

The Illinois River is located in southwestern Oregon and northwestern California. Approximately 50 miles of the river are classified as wild, scenic and recreational under the Wild and Scenic Rivers Act; approximately 21 miles of the designated river segment are accessible by road. Much of the wild section of the river runs through the Kalmiopsis Wilderness Area, and most of the designated segment lies within the Siskiyou National Forest.

The river's management plan (issued in 1985) proposes a permit system aimed at retaining the river's highly-primitive nature. It explicitly states a preference for favoring private boaters, and permits no more than the existing three outfitters to operate on the river. The plan proposes a limited-entry season from March 1 to June 30, during which all boaters on the wild section must obtain a permit. At first the private boater permits will be available on a mandatory self-issuing

basis, but when the level of use exceeds two trips per day for any ten or more days in two consecutive years, a limited-permit system will be implemented. That system will include a freedom of choice allocation, described as follows:

> The "Freedom of Choice" system will be instituted on the Illinois due to its consistency with the unique and wild character of the River. This system will use a single permit application and selection process. Once an individual has received a permit, he or she is then free to decide whether to contact and go with a commercial outfitter or to arrange and outfit their own trip. Permits will be assigned to specific applicants and not to the commercial outfitter those applicants may select. Commercial outfitters may not intervene as agents for permit applicants or permit holders in the application, confirmation or reservation processes. No fixed allocations on available trips will be imposed on either commercial or private river users under this "Freedom of Choice" system.

The plan contains no further details on the recreation allocation method or on rationing techniques. The Forest Service staff person who prepared the plan has retired, and the staff members of the ranger district in which the river is located were unaware of this provision. The contacts emphasized that the river is very lightly-used and there is little commercial activity. One contact said that the Illinois "is a totally different picture than the Deschutes or the Rogue," although he indicated that use levels do appear to be increasing.

Flathead River, Montana

Contact: Steve Penner, Forest Service, (406) 837-5081; Fred Flint, Forest Service, (406) 387-5243.

The Flathead River is located in northwestern Montana, just west of Glacier National Park. In 1976 Congress designated 219 miles of the three forks of the Flathead River as part of the national Wild and Scenic Rivers System. The designated part of the river is divided into

seven segments for management purposes. Some segments run through wilderness areas and are relatively difficult to reach; one 8-mile segment runs along a highway and receives approximately 75% of the total use on the three forks of the Flathead River. Approximately 25,000 boaters per year use that one segment, many of whom are spontaneous boaters using the services of outfitters.

The initial management plan for the river proposed a split allotment of river rafting permits, with an arbitrary split between guided and non-guided boaters controlled by limits on the total number of guided launches per week. In a 1985 supplement to the plan, the Forest Service proposed a freedom of choice allotment instead. A group of outfitters appealed this decision, but the freedom of choice method was upheld on appeal. In his affirmation of the Forest Supervisor's decision, the Chief of the Forest Service wrote the following:

> [Freedom of Choice, or "FOC"] is intrinsically fair in that it equalizes the chance for securing a river running opportunity between outfitted and non-outfitted groups. FOC is, therefore, responsive to shifts in demand between the two sectors, and it does address the principle concern of private boaters about allocation based on historic use. There is, however, a built in bias to this system, which favors the local user, and river running community, over that segment of the public who live at some distance from the river, and who may only raft once or twice in a lifetime. This latter group, of course, are most apt to need outfitter services. This bias is based on the knowledge, or lack of it, that a permit is required, and of the procedures necessary to secure a permit.
>
> We believe that this bias can be removed from FOC by careful design of the permitting system to insure a truly equal opportunity for all permit applicants, and by allowing enough lead time before implementation to ensure widespread dissemination of information about the process to interested publics. It is equally important that, if and when FOC is implemented, the process be closely monitored to ensure that the system is meeting the intended purpose. Fine tuning of the process will undoubtedly be necessary during the phase-in period.
>
> Outfitters provide a very important service to a large segment of the public. By approving the potential use of FOC on the Flathead River, it is not our intent to harm the providers of these valuable services. It is our intent to

provide equitable treatment to all of the public. We believe FOC has the potential to do that.

This decision drew a response from the Deputy Assistant Secretary for Natural Resources and Environment in the Department of Agriculture. A copy of his letter follows this section. Despite this letter, contacts at the Hungry Horse Ranger District confirmed that the Forest Service is still committed to following this approach. They stated strong opposition to allocation systems that give monopolies to commercial interests, and they said that they don't believe that freedom of choice will have very significant impacts on businesses. ("It may affect their stability," said one contact, "but conceivably 100% of the boaters could decide to use outfitters, and it could be to their advantage.")

Consistent with the common theme of segment-specific management, the revised Flathead plan proposes different rationing approaches for different segments of the river. On the more remote reaches, where boaters typically plan their trips far ahead of time, permits will be available in advance (probably through a reservation system). On the crowded 8-mile "highway" stretch, where boaters tend to decide spontaneously to take a half-day trip offered by an outfitter, permits will be available only on the same day of use, and will be obtained from a Forest Service office near the outfitters.

DEPARTMENT OF AGRICULTURE
OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20250

OCT 7 1987

Flathead Nat'L Forest

September 22, 1987

SUBJECT: Administrative Appeal of the Decision Related to Management Area 18 (Flathead River Wild and Scenic River) of the Flathead National Forest Land and Resource Management Plan

TO: F. Dale Robertson
Chief
Forest Service

I have reviewed your decision letter (signed by Larry Henson) related to the above referenced appeal. Several elements of this decision could set precedent related to policy for dealing with outfitters and guides on the National Forest System.

As you know, former Chief R. Max Peterson spent several years working with representatives of outfitters and guides and Senate and House staff to develop a policy which was reasonable and generally acceptable to all parties. It was a highly successful effort.

I would ask that you carefully review whether the decisions arrived at in these appeals are consistent with the understandings and objectives agreed to with respect to dealing with outfitters and guides. Before you implement these decisions, please inform this office of the result of your review and actions you propose to take to address issues that have been raised.

Attached is a letter from Jack Cole of the National Forest Recreation Association which describes the concerns of NFRA over the decision.* Your review should address the issues raised in this letter, as well as issues raised by others as they may relate to this particular matter.

Douglas W. MacCleery

DOUGLAS W. MACCLEERY
Deputy Assistant Secretary
Natural Resources and Environment

Enclosure

* Copy of referenced letter not available in present research.

Rec'd Forest Service

Arkansas River, Colorado

Contacts: Steve Reese, Arkansas River Manager, Colorado Department of Parks and Recreation, (719) 539-7289; Tim King, Planner, Colorado Department of Parks and Recreation, (303) 866-3437.

The Arkansas River is managed jointly by the Colorado Department of Parks and Recreation and the BLM. It may be considered for inclusion in the federal Wild and Scenic Rivers system in the future, but it has not been designated. The 148.5 miles of river included in the management plan run through a diverse array of land-ownership, including BLM, Forest Service, local government, state, and private lands.

There are currently approximately 69 outfitters operating on the river. Most of the boating is day-use, and on most (but not all) segments there is significantly more commercial than private boating. Parts of the river have highly-technical whitewater stretches (up to Class V), although other parts are flat and easy. Bank fishing is a popular activity, and there have been conflicts between boaters and anglers as boating use has increased in recent years. Access is relatively easy throughout the river.

The planning process began with a Memorandum of Understanding between the state and federal agencies, which declared that the State Parks Department would be the lead agency for managing recreation on the river. A 22-member advisory committee (made up of all groups that wished to participate) is an active part of the continuing planning process, and was responsible for determining carrying capacities for the whole river and for individual segments of the river.

The Final Arkansas River Recreation Management Plan and Environmental Analysis (released in 1988) identified 6 river segments and set forth different carrying capacities and management goals for each based on primary recreation uses. The plan did not decide upon an allocation method, although it is clear from the document that a split allotment approach was intended. The plan contains separate carrying capacity limits for each type of boater, and provides that segment-by-segment restrictions will become necessary if recreation use exceeds 75% of carrying capacity on any segment more than five times per year.

In fact, this standard has now been met, so the plan's provisions for use limitations are in effect. The plan requires the citizens' advisory group to decide what allocation method is fair and appropriate. The group will follow some general guidelines set forth in the plan, but otherwise the result of this phase of the planning process is as yet unknown. It is entirely possible that limits will only be necessary for guides at this point, and that private boaters may continue to use the river without permits. For this reason, excess demand for one sector may not be used by the other (private boaters may be able to use a segment for which guides are turned away if only the commercial limit has been reached in that segment).

The plan also sets out certain restrictions aimed at reducing user conflicts and crowding. For example, it provides that all commercial boats must be off certain segments by 5:00 pm. This provides a "quiet time" when private boaters and anglers may be free of conflicts with commercial boaters. And, as a condition of their river permits, all commercial outfitters are required to send their boatmen/guides to an annual state-sponsored user ethics workshop dealing with noise and other environmental quality issues.

C. Observations

This brief survey suggests several observations. First, the Deschutes is rather different from most limited-use rivers. Most of these rivers are relatively remote and have limited access points. (The Arkansas River is a clear exception to this, as is perhaps best illustrated by the cover of its management plan, which shows a river flanked on either side by railroad tracks and a roadway.) This difference is important, as successful implementation of use limits may depend on controlling access to the river.

Another notable difference is the numbers of boaters and guides on the other rivers. (Again the Arkansas is an exception, with use levels very similar to those on the Lower Deschutes.) With smaller numbers, of course, direct contact with boaters is easier and compliance is easier to monitor. These smaller numbers are partly explained by the observation that the other river segments tend to be comparable in length to the designated segments of the Lower Deschutes. Once again, this underscores the importance of considering management options for particular segments of the Lower Deschutes, rather than trying to impose a single system on the whole river at once.

All of the rivers surveyed have provisions for last-minute boaters, generally made possible by the high percentage of no-shows. This additional pool of permits should be taken into account in determining whether a particular allocation approach is "fair" to all users; as several managers pointed out, private boaters turned away initially are frequently able to obtain permits by waiting until the second-round distribution. Even more significant is the Flathead River approach, which recognizes that one segment of the river (like Segment Two of the Lower Deschutes) is used

almost exclusively by spontaneous boaters; on that segment only, all permits will be available on the day of use.

Finally, an interesting point that was only touched upon in this survey was that some rivers are managed as part of systems, so that users may apply for a larger range of opportunities at one time. This river-system management approach might be useful in the future, especially if it appears that users turned away from the regulated Lower Deschutes are crowding other rivers in the area. Managing access to several rivers can encourage voluntary redistribution of recreation use, and can help provide a spectrum of recreation opportunities to the public.

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